

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions,  
and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A device for positioning and controlling rail vehicles (4) including comprising:

fixed stations (1) comprising a first signal transmission—reception means transmitter and receiver (2); and a central control station (3) to which are connected the fixed stations (1) and controlling a transport zone,

characterised in that wherein,

each rail vehicle (4) comprises second signal transmission—reception means transmitter and receiver (6) containing a specific identifier of a transmitter and at least one message,

the signals transmitted by the first transmission—reception means transmitter and receiver (2) of the fixed stations (1) contain a specific identifier of the transmitter and at least one message,

the central control station (3) sends rail operation control orders,

each rail vehicle (4) and each fixed station (1) include processing means processor (8) for determining the identifier and at least said message of each signal received,

the signals of the first and second transmission—  
~~reception means transmitter and receiver (2, 6)~~ are non-sinewave  
radio signals with a very large passband whereof a frequency  
spectrum ranges between 1 and 10 GHz.

2. (currently amended) ~~The A-device according to claim 1, characterised in that wherein~~ each rail vehicle (4) ~~includes on the one hand, comprising:~~

a first means for determining processing lane of the first and second transmitter and receiver (2, 6) determines the position and the direction of said vehicle in the transport zone; and ~~on the other hand,~~

a second means for determining processing lane of the first and second transmitter and receiver (2, 6) determines an actual speed measurement of said vehicle, ~~each of a first and second transmitter and receiver~~ ~~said means receiving receives~~ signals from the ~~processing means processor~~.

3. (currently amended) ~~The A-device according to claim 1, characterised in that wherein~~ each rail vehicle (4) ~~includes means for detecting comprising:~~

a third processing lane of the first and second transmitter and receiver (2, 6) determines passive obstacles or other vehicles on lanes receiving signals from said ~~processing means processor~~.

4. (currently amended) The A-device according to claim 1, characterised in thatwherein a localisation in the transport zone, a speed and direction of each rail vehicle (4) are determined on the one hand, and a detection of obstacles is realised on the other hand, in real time and simultaneously.

5. (currently amended) The A-device according to claim 1, characterised in thatwherein said specific identifier is obtained by pseudo-random encoding.

6. (currently amended) The A-device according to claim 1, characterised in thatwherein the rail operation control orders transmitted by the central station (3) include navigation instructions of at least one rail vehicle (4).

7. (currently amended) The A-device according to claim 6, characterised in thatwherein said orders comprise a communication for said rail vehicle (4).

8. (currently amended) The A-device according to claim 1, characterised in thatwherein the central control station (3) includes a processing unit for centralising and processing the data sent by the fixed stations (1) and means for displaying said data on a screen in real time.

9. (currently amended) The method for positioning and controlling rail vehicles including fixed stations (1) comprising first signal ~~transmission—reception means—transmitter and receiver~~ (2) and a central control station (3) to which are connected the fixed stations (1),

~~characterised in that wherein,~~

each rail vehicle (4) comprises ~~a second signal transmission—reception means—transmitter and receiver~~ (6),

a specific identifier is determined for each of the first and second ~~transmission—reception means—transmitter and receiver~~ (2, 6), said signals being non-sinewave radio signals with a very large passband whereof a frequency spectrum ranges between 1 and 10 GHz containing said identifier and at least one message,

for each of the signals received by the fixed station (1) and by each rail vehicle (4) the identifier and at least said message of this signal are determined by ~~processing means processor~~ (8),

rail operation control orders are sent by the central control station (3).

10. (currently amended) The A-method according to claim 9, characterised in thatwherein a transport zone controlled by the central station (3) and wherein the rail vehicles (4) are displaced, is divided into a grid of points defined by the repetition of a same elementary mesh of length D.

11. (currently amended) The A-method according to claim 10, characterised in thatwherein the length D of the elementary mesh is set typically to several hundred metres.

12. (currently amended) The A-method according to claim 11, characterised in thatwherein rail operation control orders are sent by the central control station (3) to each rail vehicle (4) so that a single vehicle (4) is included any time over the length D.

13. (currently amended) The A-method according to claim 11, characterised in thatwherein rail operation control orders are sent by the central control station (3) to at least two rail vehicles to conduct a rendezvous manoeuvre over the length D.

14. (currently amended) The A-method according to claim 10, characterised in thatwherein the length D of the elementary mesh is variable with time.

15. (currently amended) The A-method according to claim  
~~14 characterised in thatwherein~~ the length D of the elementary  
mesh is determined in real time from the signals transmitted by  
each rail vehicle (4), said length being at least equal to the  
safety distance  $D_{min}$  between each vehicle, the central station (3)  
sending rail operation control orders to each rail vehicle (4)  
for keeping said distance D between each vehicle.

16. (currently amended) The method Method according to  
claim 9 ~~characterised in thatwherein~~ passive obstacles on lanes  
are determined by the second ~~transmission reception means~~  
~~transmitter and receiver~~ (6) and for each rail vehicle (4) in  
motion.

17. (currently amended) The A-device according to claim  
~~2, characterised in thatwherein~~ each rail vehicle (4) ~~includes~~  
~~comprising: means for detecting~~  
~~a fourth processing lane of the first and second~~  
~~transmitter and receiver (2, 6) determines~~ passive obstacles or  
other vehicles on lanes receiving signals from said ~~processing~~  
~~means processor.~~